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**JAPANESE**

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**REPORT**

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**Notes:**

1. Untranslatable words are replaced with asterisks (\*\*\*\*\*).
2. Texts in the figures are not translated and shown as it is.

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[Document Name] Description

[Title of the Invention] In mold label container

[Claim(s)]

[Claim 1] In an in mold label container with a flank and the bottom located inside the lower part end The bottom label corresponding to [ each label has the barrier layer and heat adhesion resin layer which were formed at least from the ultraviolet-rays interception layer or the ultraviolet-rays interception layer, and the still more transparent gas barrier layer, and ] a bottom, The in mold label container which is equipped with an in mold label with the side label corresponding to a flank, and the forming resin ejected by this in mold label surface, and is characterized by the outside (outer diameter) of a bottom label being larger than the bottom outside on the arrangement side of this bottom label (outer diameter).

[Claim 2] The in mold label container characterized by the outside (outer diameter) of a bottom label being smaller than the flank outside on the arrangement side of this bottom label (outer diameter).

[Claim 3] The in mold label container according to claim 1 characterized by the periphery part of the above-mentioned bottom label having risen up.

[Claim 4] The in mold label container according to claim 1 characterized by the periphery part of the above-mentioned bottom label descending below.

[Claim 5] The in mold label container according to claim 1 characterized by forming a part for a notch under the both-sides periphery part of a side label.

[Claim 6] The in mold label container according to claim 1 characterized by the amount of above-mentioned notch having extended even into the portion corresponding to \*\*\*\*\* of a flank.

[Claim 7] In an in mold label container with a flank and the bottom located inside the lower part end The bottom label corresponding to [ each label has the barrier layer and heat adhesion resin layer which were formed at least from the ultraviolet-rays interception layer or the ultraviolet-rays interception layer, and the transparent gas barrier layer, and ] a bottom, It is the in mold label container characterized by having an in mold label with the side label corresponding to a flank, and forming resin ejected by this in mold label surface, connecting a bottom label and the side label of each other, and constituting the cup-like in mold label.

[Claim 8] The in mold label container according to claim 7 characterized by forming the gate hole in a bottom label.

[Detailed Description of the Invention]

[0001]

[Field of the Invention] In a transparent fabrication container, this invention can equip with a barrier property label steadily, and belongs to the in mold label container which can obtain a container with ultraviolet-rays interception nature and gas barrier property.

[0002]

[Description of the Prior Art] Although the forming container which consists of general-purpose plastics, such as conventional polyolefin system resin, had steam barrier property, barrier property which promotes the chemical change of a content, such as ultraviolet rays and oxygen gas, was not what can not necessarily be satisfied. In order to have given ultraviolet-rays interception nature to the above-mentioned forming container, colored it the container or the label with light sheildings, such as aluminum foil, a metal vapor deposition film, and printing, was stuck with adhesives etc., and in mold fabrication which pastes up with the heat at the time of fabrication was carried out, and ultraviolet-rays interception nature was given. Moreover, in order to give oxygen gas barrier property to a forming container The lamination sheet which contains transparent ethylene, acetic acid vinyl copolymer

saponification thing, etc. in the above-mentioned lamination label was used, and the multilayer fabrication container which uses material with other oxygen gas barrier property, for example, polyester, nylon, a vinylidene chloride, etc. as a constituent factor was used.

[0003] [ however, the forming container which stuck the label which laminated the film with light sheildings, such as aluminum foil, a metal vapor deposition film, and printing, and resin of a cast and the film to paste up ] Although it has the preservability from the field of both ultraviolet rays and oxygen in content protection by operation of the various barrier property of aluminum foil, it was what is inferior in the salability which cannot see a content. moreover, although the content of \*\* which laminated the resin film with other transparent oxygen gas barrier property appears, since the content by light, especially ultraviolet rays deteriorated (oxidization of discoloration, \*\*\*\*, spice, and oil etc.), there was a problem that the shelf life in a shop front fell.

[0004] As an in mold label container which uses the above-mentioned label, there are some which were indicated by JP,H5-95847,U, for example. This in mold label container welds the material in which the waist is strong and gas barrier property is excellent as insertion material to the flank whole region and the bottom whole region with the tubed form which has a bottom with the injection-molded product of a synthetic resin of a container. [ \*\*\*\* ] By such composition, the strength of the waist of a label can raise the mechanical intensity of the whole container, and barrier property can be increased. That by which the main part layer which consists of the strong paper or the strong synthetic paper of the waist as a label here, and the barrier layer which consists of synthetic resin material of aluminum foil or gas barrier property were laminated is used.

[0005]

[Problem to be solved by the invention] However, it sets to a conventional gas barrier property in mold label container and its conventional manufacture method. Although an in mold label has a side label corresponding to the flank of a container, and a bottom label corresponding to the bottom of a container, if a bottom label shifts within a metallic mold or is turned over, the gas barrier property of a container bottom will fall remarkably. Moreover, the crevice between a bottom label and a side label was expanded in this case, and there was a problem that the gas barrier property in this crevice also fell.

[0006] This side label makes the shape of a sector, and nothing and a bottom label are making circle form. Among these, when the edges on both sides of a side label contact a metallic mold, a side label may be turned over and resin may flow into the external surface side of a side label. When such, a side label has not been arranged in the right position, but there was a problem that desired barrier property was not obtained for this reason. This invention is the forming container which consists of polypropylene of general-purpose resin, polystyrene, etc. the transparent label where a content appears the ultraviolet rays which are the cause of deterioration of the above-mentioned content -- that is, It aims at offer of an in mold label container which equipped with the label (the layer excellent in ultraviolet-

rays interception nature and gas barrier property is hereafter named generically, and UV cut barrier layer and its label are indicated to be "UV cut barrier labels".) which has ultraviolet-rays interception nature and was excellent in gas barrier property steadily.

[0007]

[Means for solving problem] In order to solve the above-mentioned technical problem [ the 1st feature of this invention ] In an in mold label container with a flank and the bottom located inside the lower part end The bottom label corresponding to [ each label has the barrier layer and heat adhesion resin layer which were formed at least from the ultraviolet-rays interception layer or the ultraviolet-rays interception layer, and the gas barrier layer, and ] a bottom, Having an in mold label with the side label corresponding to a flank, and forming resin ejected by this in mold label surface, the outside (outer diameter) of a bottom label is a larger in mold label container than the bottom outside on the arrangement side of this bottom label (outer diameter). Moreover, it is the in mold label container with which a part for a notch is formed in the lower part portion of the both-sides periphery part of a side label. And when the amount of above-mentioned notch is the maximum, it is the in mold label container prolonged even into the portion corresponding to \*\*\*\*\* of a flank. The 2nd feature of this invention is an in mold label container in which the outside (outer diameter) of a bottom label is smaller than the flank outside on the arrangement side of this bottom label (outer diameter). The 3rd feature of this invention is an in mold label container with which the periphery part of a bottom label rises up, or the periphery part is descending below. The 4th feature of this invention is the in mold label container which connects a bottom label and the side label of each other, and can constitute a cup-like in mold label.

[0008]

[Mode for carrying out the invention] The in mold label container of this invention is drawing 1 (a). (b) And (c) The in mold label container 10 is equipped with the flank 10a of a cylinder part, the bottom 10b prepared inside [ lower part end ] Flank 10a, and the flange 10c prepared in the upper part of Flank 10a so that it may be shown. Among these, Flank 10a consists of a side label 1 (drawing 4 (a)) which contains UV cut barrier layer with the composition shown, for example in drawing 6, and forming resin 7 ejected by the surface of the side label 1. Moreover, Bottom 10b consists of forming resin 7 ejected by the surface of the circular bottom label 2 (drawing 4 (b)) containing UV cut barrier layer and the bottom label 2, among these the gate hole 6 is formed in the central part of the bottom label 2.

[0009] They are attracted by the vacuum suction hole 8 prepared in the female die 3 while being equipped with the side label 1 and the bottom label 2 in the female die 3 of a metallic mold. For this reason, as for the side label 1 and the bottom label 2, each is arranged at the external surface side of the flank 10a of a container 10, and Bottom 10b. Moreover, drawing 1 (b) The bottom label 2 is the diameter is smaller than the outside (outer diameter) A of the flank 10a on the arrangement side of the bottom label 2, and larger than the outside (outer diameter) B of the bottom 10b on the arrangement side

of the bottom label 2 so that it may be shown. That is, it is diameter  $<A$  of  $B <$  bottom label 2.

[0010] The side label 1 is making the shape of a sector, and the notches 12 and 12 shown in drawing 5 are formed in a part for the lower part of the edges on both sides 1a and 1a of the side label 1 (lower part portion of drawing 1 (a)). In the greatest case, these notches 12 and 12 are prolonged to the portion corresponding to \*\*\*\*\* 11 of Flanks 10a and 10a, and, for this reason, in the greatest case, carry out abbreviation coincidence of the height h of a notch 12 at the distance from the lower end of the side label 1 to the upper end of \*\*\*\*\* 11.

[0011] Thus, when equipping with the side label 1 in a female die 3 by forming notches 12 and 12 in the side label 1, the lower part portion of the edges on both sides 1a and 1a of the side label 1 The inner wall of a female die 3 is contacted and the lower part portion of this side label 1 is not turned over. For this reason, it follows on it being acceptable side label 1 and giving, forming resin 7 does not turn to the outside of the side label 1, and the outside position of Flank 10a can be correctly equipped with the side label 1.

[0012] Furthermore, the periphery parts 2a and 2a of the bottom label 2 are descending below while projecting them from Bottom 10b to the method of outside. Thus, when equipping with the bottom label 2 in a female die 3 by making the diameter of the bottom label 2 larger than the outside (outer diameter) B of Bottom 10b, even if a bottom label shifts slightly, the bottom 10b of a container 10 can fully be covered with the bottom label 2. For this reason, UV cut barrier property of Bottom 10b can be demonstrated. Furthermore, the periphery part 2a of the bottom label 2 will project to the method of outside [ Bottom / 10b ], it will descend below, and UV cut barrier property in the lower part portion (\*\*\*\*\* ) 11 of Flank 10a can be done so.

[0013] When it is equipped with the bottom label 2 in a female die 3 by making the diameter of the bottom label 2 smaller than the outside (outer diameter) A of Flank 10a, in order not to contact the inner wall of a female die 3, it is acceptable bottom label 2 and gives, and there is no modification, and forming resin 7 can be smoothly rotated to \*\*\*\*\* 11.

[0014] Polypropylene, polyethylene whose forming resin of this invention is transparent material, An ethylene acrylic acid copolymer, an ethylene acrylic ester copolymer, Not only thermoplastics, such as acrylic resins, such as eye ONOMA, MECHIPEN ten polymer, and methyl acrylate, polystyrene, polyethylene terephthalate, polyamide, and polyvinyl chloride, but thermosetting resin, such as unsaturated polyester, melamine resin, and urea resin, can be used.

[0015] The fabrication of a container can apply the forming method of usual thermoplastics, such as injection molding or \*\*\*\*\* fabrication, vacuum forming, blow molding, or injection blow molding. And if it installs tentatively to a metallic mold so that it can come and the forming resin side may be touched

in an in mold label at the time of fabrication of \*\*, and necessity is accepted, the in mold fabrication pasted up from a suction hole with a vacuum and the heat of forming resin which draws in, fixes an in mold label and is in a molten state is a desirable method.

[0016] UV cut barrier label of this invention is drawing 1 (c). The pattern layer 32 shown in the base material film 31 used as a printing film at drawing 6 depending on necessity is formed so that it may be shown. Subsequently, the coating liquid which laminates by a dry lamination nation etc. or contains an ultraviolet-rays interception layer for the film containing ultraviolet-rays \*\*\*\*\* through an adhesives layer is coated, and the ultraviolet-rays interception layer 34 is formed. When [ and ] carrying out in mold fabrication with forming resin Furthermore, while carrying out heat adhesion with forming resin, modification of elasticity etc. carries out the dry lamination nation of the film of little material with the heat, push out and coat, or carry out lacquer coating, and the heat adhesion resin layer 36 is formed. The in mold label (UV cut barrier film) 30 containing a transparent ultraviolet-rays interception layer is constituted.

[0017] UV cut barrier label 30 used for this invention forms the ultraviolet-rays interception layer 34 in the base material film 31 which formed the pattern layer 32 by printing like the above-mentioned lamination sheet, as shown in drawing 6. Furthermore, the film 35 with gas barrier property is laminated to the field of the ultraviolet-rays interception layer 34 by a dry lamination nation etc., or material with gas barrier property is coated to it, and it forms in it. And when carrying out in mold fabrication as mentioned above, the heat adhesion resin layer 36 is formed further, and the in mold label which \*\*\*\*\* in desired size and consists of a UV cut barrier film 30 is constituted.

[0018] UV cut barrier film 30 used for this invention is fundamentally formed as mentioned above the base material film 31, the ultraviolet-rays interception layer 34, and also if needed from the gas barrier layer 35 and the heat adhesion resin layer 36. However, the order of composition of lamination can constitute the film which is not limited as mentioned above and becomes the both sides of UV cut barrier film from the same resin as a forming container, and can prevent the curling when using it as a label. Such a lamination sheet can make physical properties, such as surface gloss, the same as that of a forming container, or pastes up forming resin on the both sides of a lamination sheet, and if a lamination sheet makes it from an end the firm adhesion without exfoliation and omission, it can \*\* it. moreover, [ make reverse the order of composition of the ultraviolet-rays interception layer 34 and the gas barrier layer 35, or ] [ sandwich an ultraviolet-rays interception layer with the barrier film of two sheets in order to prevent elution of an ultraviolet-rays interception agent, or ] the film (for example, a vinylidene chloride coat polyester film --) which coated barrier materials or shared the gas barrier film and the printing base material The layer constituted according to the use purpose can be fluctuated arbitrarily, such as using a vinylidene chloride coat and an extension polypropylene film, or omitting printing.

[0019] As for a base material film, what is obtained by the letter of rolling up suitable for other films which it is not only suitable for printing, but constitute a lamination sheet, and adhesion processing is desirable. Other materials are laminated on extension or the non-oriented films, and those films of

thermoplastics, or what was processed by the coating etc. is preferably used for them. For example, polyester, polypropylene, polyethylene, polystyrene, It is laminated and used by polycarbonate, ethylene and an acetic acid vinyl copolymer saponification thing, acrylic resin, polyamide, polyvinyl chloride, the film of cellulose acetate, cellophane, and the lamination nation method of these films usual in two or more sorts.

[0020] The material which intercepts ultraviolet rays can be chosen from the usual ultraviolet ray absorbent etc. An ultraviolet ray absorbent is what [ activity / a thing / the chemistry target contained in sunlight, a fluorescent light, etc. / that absorbs 390nm of harmful ultraviolet rays of 290nm or less preferably ] and and. This ultraviolet ray absorbent changes ultraviolet rays into thermal energy within a molecule. for example, everything but a benzoFENON system, a benzobird AZORU system, a SARISHIRATO system, and a cyano AKURIRATO system -- things, such as HORUMU friend gin and a hindered amine system, -- independence -- or it is mixed and used. It kneads to raw resin and a film can be produced, or these ultraviolet ray absorbents can choose a suitable binder, can form a paint, and can coat it on a film.